

Remarks

Claims 16 to 18, 20, 23, 25 and 27 are amended. Claims 30 to 33 are added and claims 19 and 26 are cancelled. Claims 16 to 18, 20 to 25 and 27 to 33 are pending in this application of which claims 16, 23 and 31 are in independent form.

Applicants' attorney and applicants' representative, Mr. Klaus-Peter Kintzel, thank Examiner Fineman for the personal interview held on May 3, 2007 and especially for reviewing the draft amendment. The conclusion was reached at the interview that the proposed claim amendments set forth in the draft amendment appear to patentably distinguish over the prior art combination of Pensel et al, DeForest et al and Spink et al. Accordingly, the claims are amended herein precisely as presented in the draft amendment and the following arguments show that the conclusion reached at the interview is correct.

Claims 23 and 26 were rejected under 35 USC 103(a) as being unpatentable over Pensel et al in view of DeForest et al. The following will show that claim 23 patentably distinguishes the applicants' invention over this combination of references.

In Pensel et al, a surgical microscope is described with reference to FIG. 1 wherein a video recorder 19 and a video camera 26 are provided. However, Pensel et al does not disclose whether this "recording module" detects only the image of the viewing region in the surgical microscope or whether also image information is taken up thereby wherein the image of the viewing region is superposed with the image generated by a display.

In the action, reference is made to the recording module (19, 26) of Pensel et al and the video camera 26 is characterized as an image sensor mounted to receive data from the image projection module and generating an image signal from the image data. The video camera 26 is supplied by the data processing unit 24.

In contrast to Pensel et al, the beam splitter 13 shown in applicants' FIG. 1 passes data from an imaging projection module to an image sensor 25. Also, this very same beam splitter 13 directs an image of the object on to the very same image sensor 25. This is expressed in applicants' claim 23 with the clause:

"a beam splitter mounted in said viewing beam path for receiving and passing said data image to said image sensor and for directing said object image onto said image sensor;" (emphasis added)

Thus, the applicants provide a beam splitter in the viewing beam path which transmits both the data image and the object image to an image sensor which generates an image signal from both the data image and the object image. This is set forth in applicants' claim 23 with the clause:

"said image sensor generating an image signal from both of said data image and said object image for display on a monitor;" (emphasis added)

The splitter 10 in Pensel et al comprises mirror splitters (10a, 10b) and functions only to reflect the image information from the LCDs (2b, 2c) into the respective beam paths. A separate set of mirrors (5a, 5b) reflect IR beams through optic systems (7a, 7b) onto separate CCDs (6a, 6b). In

the action, reference is made to a separate splitter cube 28 which functions very differently from the applicants' beam splitter. This splitter cube 28 and its function are described at column 7, lines 9 to 15, where it is stated:

"...FIG. 4, however, shows a splitter cube 28 that can be employed within the scope of the invention but also independently of it with advantage on the splitter surface 29 of which the image that is seen of the object is thrown laterally through an optical system 7 on a camera CCD 6, which the other part is available for the eye 1."

From the foregoing, it can be seen that Pensel et al has a set of splitter mirrors (10a, 10b) which coact with LCDs (2a, 2b) and a separate set of mirrors (5a, 5b) for imaging the pupil of the viewer's eye onto a CCD and a splitter cube 28 for throwing the image seen of the object laterally through an optical system onto a camera CCD 6.

The above shows that the applicants' invention is very different in that the same beam splitter transmits both image data and object data to the same sensor and this is now defined with particularity in the above-quoted clause of claim 23.

The secondary reference, DeForest et al, was cited because it had appeared to have been obvious to one of ordinary skill in the art at the time the invention was made to add the monitor 34 shown in FIGS. 1 and 2 of this reference to the system of Pensel et al to provide easy viewing for observers of the surgical procedure. However, applicants respectfully submit that DeForest et al could not have helped our person of ordinary skill to arrive at the feature and limitation of a beam splitter mounted

in the viewing path for performing the dual function of receiving and passing the data image to the image sensor and for directing the object image thereto as now set forth in claim 23 as quoted above.

Applicants submit that it is not possible for our person of ordinary skill to hit upon this feature and limitation by combining the teachings of Pensel et al and DeForest et al. This is not surprising because Pensel et al is directed to incorporating control elements by means of which various functions or accessories of the microscope may be actuated by eye movements which is far afield from the applicants' invention so that even if our person of ordinary skill would stumble upon Pensel et al and DeForest et al, it would not be possible to combine these references to arrive at the applicants' invention. In view of the above, applicants submit that claim 23 patentably distinguishes their invention over this combination of references and should now be allowable. Claims 24, 25 and 27 to 30 are dependent directly or indirectly from claim 23 so that they too should now be allowable.

Claims 16, 19 and 22 were rejected under 35 USC 103(a) as being unpatentable over Pensel et al in view of DeForest et al as applied to claims 23 and 26 in view of Spink et al. The following will show that claim 16 patentably distinguishes the applicants' invention over this combination of references.

Claim 16 substantially parallels claim 23 and is somewhat narrower because the recording device includes the feature and limitation of an image mixer for receiving both the data image and the object image.

The deficiencies of the combination of Pensel et al and DeForest et al are discussed above and Spink et al cannot fill the void left thereby. Spink et al was cited because it includes an image mixer.

As shown in FIG. 12 of Spink et al, patient information is transmitted to a data interface together with microscope information. However, there is no suggestion here that this information is received from an image sensor which generates an image signal from both the data image and the object image. More specifically, applicants' claim 16 incorporates the feature and limitation of:

"said image sensor generating an image signal from both of said data image and said object image for display on a monitor;"

It is this image signal which is applied to the image mixer via the same element, namely the image sensor, and not via different elements as taught by Spink et al.

In view of the above and especially for the reasons advanced with respect to the combination of Pensel et al and DeForest et al with respect to claim 23, applicants submit that claim 16 also should patentably distinguish their invention over the combination of all three references.

Claims 17, 18 and 20 to 22 are all dependent directly or indirectly from claim 16 so that these claims too should now be allowable.

Claim 31 is added to provide another independent definition of the applicants' invention and corresponds to claim 23 except that the feature and limitation of the synchronizing device is

not included therein. Claim 32 is added to include the beam splitter 214 shown in FIG. 5 of the applicants' drawings. Claim 33 recites the synchronizing device in the context of claims 31 and 32.

Also, for the reasons advanced above, with respect to claim 23, claims 31 to 33 should also patentably distinguish the applicants' invention over the art of record and be allowable.

In view of the foregoing, applicants believe that the conclusion reached at the interview is indeed correct and respectfully submit that the application is now in condition for allowance.

Respectfully submitted,



Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

Date: May 4, 2007